

## **AMENDMENTS TO THE SPECIFICATION**

**Kindly replace the title used in the International Application with the following:**

ANTENNA APPARATUS UTILIZING MINUTE LOOP ANTENNA AND RADIO COMMUNICATION APPARATUS USING THE SAME ANTENNA APPARATUS

**Please amend the paragraph beginning on page 1, line 9, as follows:**

Conventionally, a loop antenna is used in a portable radio communication apparatus, in particular, a mobile telephone. A configuration of the loop antenna is disclosed in, for example, a prior art document of "Institute of Electronics and Communication Engineers of Japan (IECE) editor, "~~Antenna Optical Handbook~~" Antenna Engineering Handbook", pp. 59-63, Ohm-sha Ltd., First Edition, issued on October 30, 1980". The total length of the loop antenna is normally about one wavelength, a structure of the loop antenna can be approximated to a structure, in which two half wavelength dipole antennas are aligned, based on its current distribution, and the loop antenna operates as a directional antenna having a directivity in a loop axis direction.

**Please amend the paragraph beginning on page 47, line 23, as follows:**

As is apparent from Fig. 32, when the capacitor C1 is connected to the central point Q0 of the antenna element A1, and the metal plate 30 is located apart from the antenna apparatus 108, the antenna element 08-apparatus 108

exhibits a radiation characteristic similar to that of a monopole antenna. When the capacitor C1 is connected to the central point Q0 of the antenna element A1 and the metal plate 30 is located closely to the antenna apparatus, the antenna apparatus 108 exhibits a radiation characteristic similar to that of a loop antenna of an ordinary magnetic ideal dipole (or magnetic current antenna). Therefore, the antenna apparatus 108 can always exhibit a favorable antenna gain characteristic independently of the distance D from the metal plate 30. Further, as shown in Fig. 33, when the capacitor C1 is connected near the feeding point Q, a horizontally polarized wave component is relatively small. As a result, when the metal plate 30 is located closely to the antenna apparatus, in particular, the antenna gain is lowered. As shown in Fig. 34, when the capacitor C1 is connected to one end on the side of the minute loop antenna A3, a vertically polarized wave component is relatively small. As a result, when the metal plate 30 is located apart from the antenna apparatus, the antenna gain is lowered. Accordingly, by inserting and connecting the capacitor C1 the position as located near the substantially central point Q0 of the antenna element A1, it is possible to establish a favorable antenna gain irrespectively of the position of the metal plate 30.

**Please amend the paragraph beginning on page 72, line 6, as follows:**

In the present preferred embodiment, the dielectric substrates 10 and 14 have predetermined thicknesses, and can be strongly fixed to each other by the structure of the substrate fitting and coupling sections provided between the convex portions 61 and 62 and the hole portions 71 and 72, respectively. Further, the convex portions 61 and 62 and the hole portions 71 and 72 can be

easily produced by a ~~duta-data~~ machining method or a die-cut machining method which is executed on the dielectric substrates 10 and 14, and this leads to reduction in the dimensional error. Since the constituent elements of the antenna apparatus 115 are formed by the strip conductors, it is possible to suppress the variation in the electric circuit element value and the variation in the resonance frequency of the antenna apparatus 115, and to omit a step of adjusting the frequency during manufacturing.